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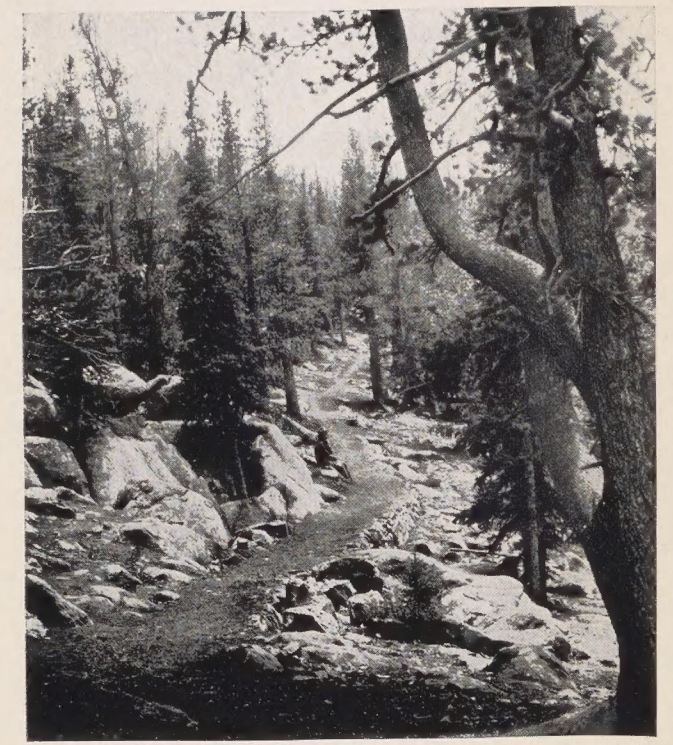
THE GLACIER REGION

The St. Vrain, Isabelle, and Arapaho glaciers are the most important of a group of ancient glaciers found along the Continental Divide, within the Roosevelt and Arapaho National Forests. The bergschrunds, crevasses, and terminal, lateral, and medial moraines are both interesting to the student of geology and to the tourist. The rock floor of the glaciers gives an emerald hue to the water of the adjacent lakes, which are clearly of glacial origin. These ice fields were first discovered in the early part of the present century. They are worth the effort of a climb to this high elevation because of their geological importance and the scenic beauty of the country.

RAWAH PRIMITIVE AREA

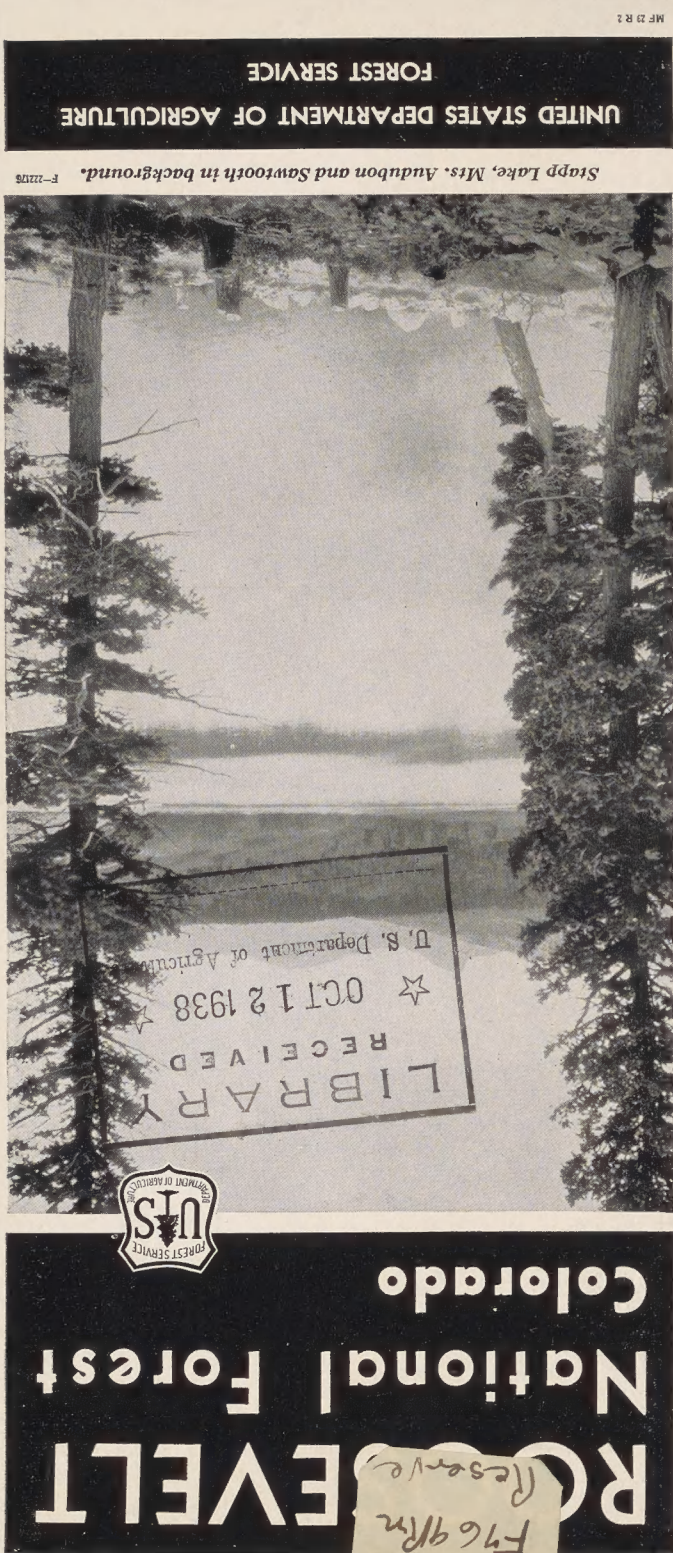
One of the most beautiful parts of the forest, located along the summit of the Medicine Bow Range, has been designated as the Rawah Primitive Area. It is a glaciated region, abounding in rugged peaks, alpine lakes, and rushing streams. Between Rawah and Clark Peaks the country is very rough and difficult for travel and great skill in mountain climbing is necessary to scale the high points. No motor highways, summer homes, or resorts will be allowed in this area, which contains 25,720 acres.

About half of the area contains merchantable stands of lodgepole pine and Engelmann spruce timber which is inaccessible at present. The greatest value of these forests is in retarding the melting of the deep cover of snow that falls each winter, and in delaying run-off after heavy rains, since the water from this area is intensively used for irrigation purposes.



The Mr. Thorodin Trail, Roosevelt National Forest, Colorado.

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Stopp Lake, Mrs. Audubon and Sawtooth in background.

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One to be proud of, caught at Creedmore Lake.

RECREATION POSSIBILITIES

The Roosevelt, as well as other national forests, is used as a playground by large numbers of people because of its accessibility and the appeal of the simple forms of recreation which it affords. Campers, fishermen, hunters, and those who seek health, rest, or other outdoor recreation find great pleasure in the natural environment of the forests. Unlike many places where there is development for mass recreation, the forests are not crowded.

Some areas have been developed for larger groups of picnickers and campers. Among these is the Fort Collins mountain recreation area, located along the Poudre River, 35 miles from Fort Collins. A community building, erected jointly by citizens of Fort Collins and the Forest Service, is the center of this recreation area, which contains tables, grates, and other facilities for the accommodation of the public. A playground for soft ball has been prepared and a trail has been built to the summit of an adjacent mountain, which affords wonderful views of the surrounding country.

An attractive area at Brainard Lake has been improved with camping and picnicking facilities. Trails lead from this camp, located near the end of the road, to the Isabelle glacier and scenic points on the Figure Eight Trail.

Many other smaller recreation areas with simple improvements are available for public use. An average of 115,000 people have picnicked on the forest annually the last 3 years. The number of campers averaged 42,000, fishermen, 100,000, hunters, 4,000, and more than 100,000 people drove through the forest merely to enjoy the scenery. About 7,000 people used the forest for winter sports in 1937, and skiing is becoming more popular each year.

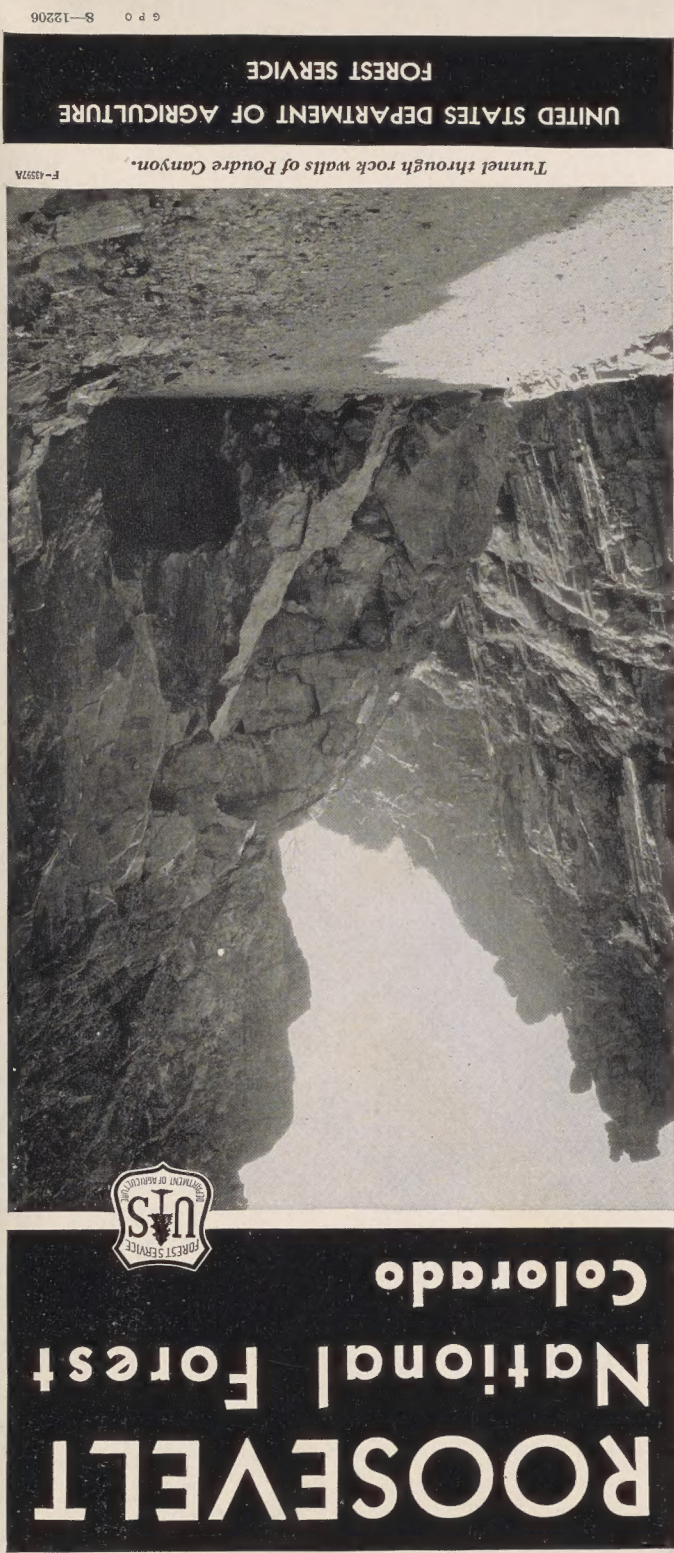
Loveland, in cooperation with the State Park Division of the National Park Service, has developed a picnic ground in the Big Thompson Canyon, close to the municipal power plant. Shelters, sanitation, and convenience facilities have been installed. Boulder has a well-developed mountain park adjacent to the town and the forest boundary. This also was improved in cooperation with the State Park Division of the National Park Service.

THE MOFFAT TUNNEL

The Moffat Tunnel passes through the Continental Divide, under James Peak, which is 13,260 feet in elevation. The tunnel is composed of two shafts, the pioneer or water tunnel and the main railroad tunnel, which is used by the Denver and Salt Lake Railway and by the Denver and Rio Grande Western Railroad. The latter road runs trains through the tunnel via the Dotsero Cut-off to Salt Lake City and the Pacific Coast. The tunnel is 6.4 miles long, 24 feet high, and 18 feet wide. The total cost of the tunnels was about \$15,000,000. The water tunnel, which is 8 feet high and 8 feet

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Tunnel through rock walls of Poudre Canyon.

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Devastation by fire on Fourmile Creek.

wide, is used to bring water from the Fraser River and other tributaries of the Colorado River, on the west side of the Divide, to the east side, to supply water for irrigation and for municipal purposes in Denver. The east portal of the tunnel is in the Roosevelt and the west portal in the Arapaho National Forest.

FIRE—THE RED ENEMY

There are many large areas on the forest which show scars of forest fires. All of the large burns are the result of fires which occurred years before any of the forests of the West were protected. During the last 29 years, since organized fire protection was started, 1,973 acres of Federal land within the forest have been burned, or an average annual loss of 68 acres. During 14 years of this period the loss did not exceed 10 acres annually. The largest area burned in any year amounted to 636 acres in 1932. Most of these fires have been the result of human carelessness. Fire is the forest's worst enemy. One match, one cigarette, one campfire left carelessly may destroy millions of trees, with their inestimable value in watershed protection.

When camping, riding, fishing, hiking, or in fact any time, anywhere, that you are using fire in any form, be sure it is out before you leave it, because it might start a forest fire that would do a great deal of damage. Many years are required to grow trees which fire will destroy in a short time.

DON'T handle a fire carelessly.

Should you discover a forest fire, put it out, if you can. If you cannot put it out, report it to the forest supervisor, the ranger, the sheriff, or the nearest telephone operator. Location of supervisor's and rangers' headquarters is indicated on the map.

ADMINISTRATION OF THE FOREST

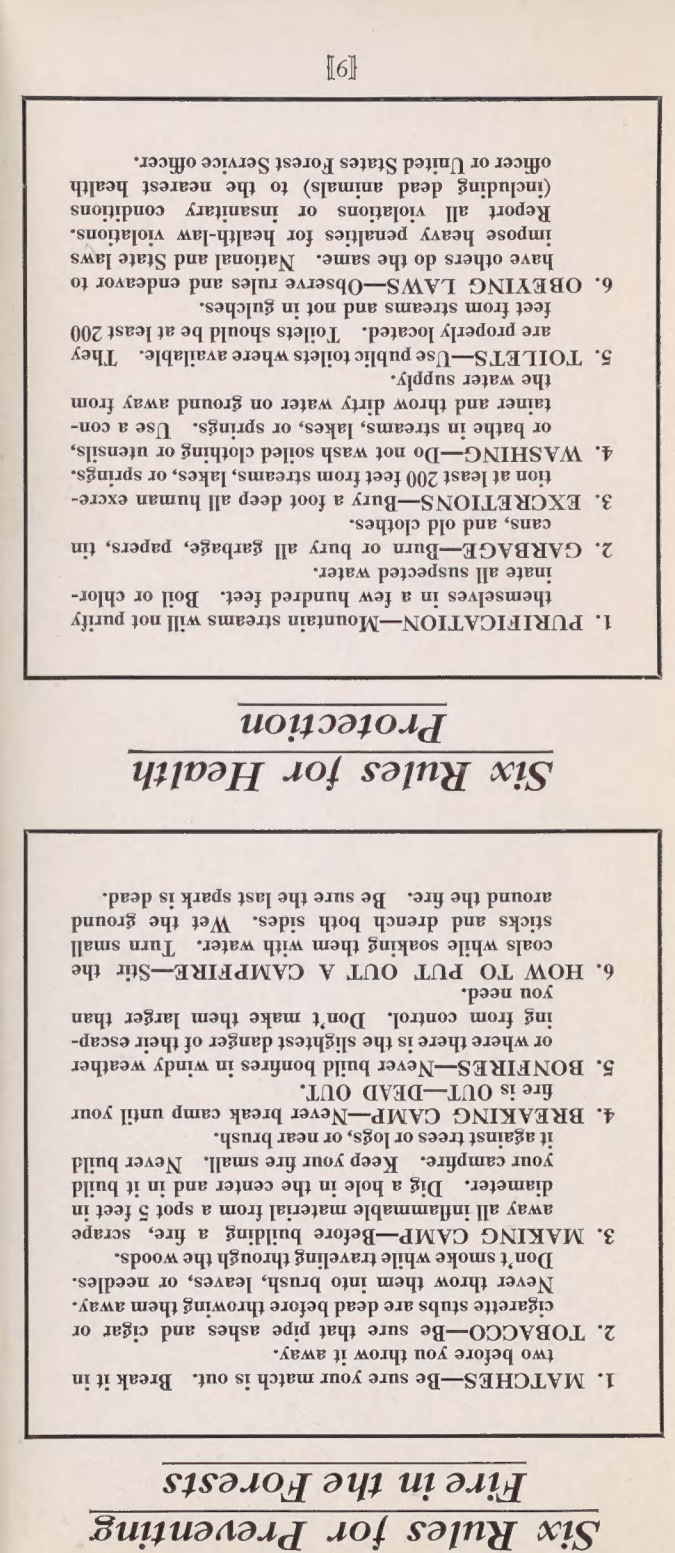
The Roosevelt National Forest is divided into four districts, each under the care of a ranger. These districts, with headquarters of the forest officer, are as follows:

Laramie River District Redfeather Lakes, Colo.
Poudre District Eggers, Colo.
Estes Park District Estes Park, Colo.
Boulder District Rollinsville, Colo.

The supervisor's office is located at Fort Collins, Colo. Information may be obtained from him or from any of the rangers. Fort Collins is also the headquarters of the Rocky Mountain Range and Forest Experiment Station, one of 12 Forest Service research stations located in the United States.

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Forest officer marking lodgepole pine.

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Trees of the Roosevelt Forest

CONFERS

Pines—Three species. The pines have their needles gathered together at the base in bundles of from two to five, never occurring singly. The cones are woody and pendent.

Lodgepole pine (*Pinus contorta*)—The common pine of the higher mountains. Leaves 1½ to 2 inches long, yellow-green, always in bundles of two. Bark thin, cones one-sided, 1½ to 2 inches long, often clinging to the branches for years without opening or dropping their seeds; found on all parts of the branches. Cones scales armed with short spines.

Ponderosa pine (*Pinus ponderosa*)—This tree was formerly known as western yellow pine. Needles 3 to 5 inches long, deep green, usually three in a cluster, but sometimes in twos and in tufts at the ends of the branches. Cones 3 to 4 inches long, usually found near ends of branches. Cones scales armed with sharp spines. When young, the bark is dark and the tree is called "black jack." When older, the bark is yellowish and occurs in thick, scaly ridges.

Limber pine (*Pinus flexilis*)—Needles dark green, fine, 1½ to 3 inches long, always in bundles of five. Cones 3 to 5 inches long, with seeds about ½ inch in length. Cones scales smooth. Bark light gray or silvery white, except on old trunks which are blackish brown and furrowed. The small branches and twigs bend easily, hence the name.

Spruces—Two species. Needles scattered over the twigs singly. Needles sharp-pointed, four-sided, leaving twigs rough like a grater when they fall off. Cones pendent, with parchment-like scales, falling off the tree whole.

Engelmann spruce (*Picea engelmannii*)—The new-growth twigs are covered with soft short hair. Needles less rigid and sharply pointed than those of blue spruce; green, dark blue, or pale, steel blue. Cones are 1 to 2 inches long. Bark is dark reddish brown and separates in the form of rounded scales. Main trunk in contrast to blue spruce is smooth and clean.

Blue spruce (*Picea pungens*)—The new-growth twigs are always smooth. Needles stiff, with sharp points varying in color from silvery blue to green. Cones from 2½ to 5 inches long, averaging twice the length of Engelmann spruce cones. Bark of mature trunks gray and deeply furrowed. Main trunk always has numerous short twigs pushing out between branches. Specimens of blue and Engelmann spruce may be found almost identical in color.

Alpine fir (*Abies lasiocarpa*)—Blunt, flat leaves, about 1 to 1¼ inches long, without any stem where they join branches. Soft to the touch and fragrant. Needles tend to turn upward. Cones 2½ to 4 inches long, dark purple, and unlike those of other species, stand erect. In autumn the cones fall to pieces and leave only the central stalk on the branch. Bark smooth, grayish white, becoming furrowed in mature trees. Blisters containing liquid pitch or balsam found on smoother bark. Tree has a sharp spire-like crown. Usually found mixed with Engelmann spruce at the higher altitudes.

Douglas fir (*Pseudotsuga taxifolia*)—Although similar in name this species has no direct connection with the Douglas fir of the Pacific Northwest. Flat leaves, ¾ to 1½ inches long, with a short stem that joins them to the branches. Cones, with three-pronged bracts, protruding from between the cone scales. Cones are persistent and fall off the tree whole. Buds are sharp-pointed, shiny, smooth, red-brown.

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Rocky Mountain red cedar (*Juniperus scopulorum*)—Cones reduced to small fleshy berries. Needles reduced to little green scales attached closely to the twigs, though sometimes spreading and about ½ inch long, making twigs very prickly to the touch. Berries about the size of small peas, usually with two seeds, bluish or black, mature in 2 years. Bark scaly, dark reddish brown or gray tinged with brown; twigs slender and graceful; heartwood red.

BROADLEAF TREES

Aspen (*Populus tremuloides*)—Flat, nearly heart-shaped leaves about 2 inches across, that tremble characteristically in a breeze. Bark whitish or very pale green, smooth with black scars where branches have dropped off. Trees rarely more than 60 feet high. Commonly called quaking aspen.

Narrowleaf cottonwood (*Populus angustifolia*)—Usually a tall tree, 40 to 60 feet high. Bark dark gray, heavily ridged half or two-thirds of the way up the tree; above that, smooth, pale green. Leaves ½ to 1 inch wide, by 2 to 3 inches long, very similar to willow leaves.

Alder (*Alnus tenuifolia*)—Found along and overhanging the streams, usually in clumps, several trees growing from the same root, frequently 4 to 6 inches in diameter and 15 to 25 feet high. Leaves large and sharply double-toothed. Mature seed-bearing fruit noticeable in winter.

Rocky Mountain maple (*Acer glabrum*)—Usually a shrub, but frequently 20 to 30 feet high. Has paired opposite buds, sharply lobed leaves, light-gray bark, and paired winged seeds. Leaves 1 to 2 inches long, opposite each other.

Willows (*Salix* sp.)—The common shrub of creek bottoms. Usually narrow, sharp-pointed leaves. Some willows attain a diameter of 4 inches and a height of 15 to 25 feet. Buds are covered by a single scale.

Pacific serviceberry (*Amelanchier florida*)—Leaves silvery, sharply toothed toward the end, and alternate on branches. Trees or more often shrubs, 6 to 15 feet high. Flowers white and in clusters. Five hard seeds in each berry.

Western choke cherry (*Prunus demissa*)—Clustered flowers and fruit. Alternate leaves, sharply pointed. Bark, leaves, and seeds bitter. Fruit black. Tree, or more often a shrub, 3 to 15 feet high.

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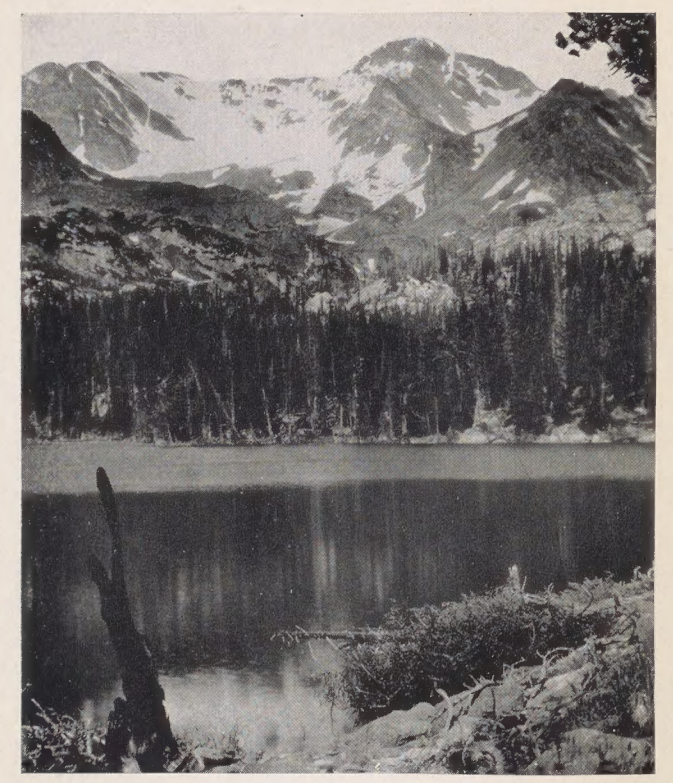
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This Forest is Named for Theodore Roosevelt



Glacier Lake in the Roosevelt National Forest.

MOST of the land within the boundaries of the Roosevelt National Forest was withdrawn from settlement from 1902 to 1905. On May 17, 1905, it was added to the Medicine Bow Forest Reserve by proclamation of President Theodore Roosevelt. On July 1, 1910, the name was changed to Colorado National Forest.

On March 28, 1932, upon the recommendation of the Forest Service, President Hoover, by executive order, changed the name to Roosevelt National Forest, in honor of the champion of forestry and conservation, who first established the forest.

The Roosevelt National Forest is located in north-central Colorado, on the eastern slope of the Continental Divide. It extends from the Clear Creek-Boulder Creek Divide on the south with the Continental Divide as the west boundary, to the south boundary of the Rocky Mountain National Park. The summit of the Medicine Bow Range is the west boundary of the forest from La Poudre Pass and the northwest corner of the park to the Colorado-Wyoming State line. The eastern boundary of the forest follows an irregular line along the foothills.

The forest contains many excellent stands of commercial timber, as well as protection stands of spruce-fir at the higher elevations and young stands of ponderosa pine and Douglas fir. The foothills also contain aspen and brush types. The forest furnishes wood products, water, and forage for the agricultural areas and the towns within and adjacent to it—as well as recreation for local people and visitors from distant places.

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The boundaries of the Roosevelt Forest embrace a gross area of 1,085,043 acres. Of this, 770,090 acres are owned by the Government; the remainder consists of State, municipal, or private land.

ROADS INTO THE ROOSEVELT

The forest is easily accessible from the principal towns located along its eastern boundary. From Boulder, the seat of the State university, one may drive through scenic Boulder Canyon to Nederland, where connection is made with the Peak to Peak Highway, which continues north through the heart of the forest to Estes Park, or south to Idaho Springs. Roads from Longmont and Lyons traverse the North and South St. Vrain Canyons. Loveland, a trading center in the heart of a rich agricultural country, has direct connection with the forest through the rugged Big Thompson Canyon to Estes Park, thence over the Trail Ridge Road through the Rocky Mountain National Park to Grand Lake.

One may travel on State Highway No. 14 from Fort Collins, the location of the Colorado State College of Agriculture and Mechanic Arts, through Poudre Canyon, over Cameron Pass, to North Park, or may leave this road at Chambers Lake and drive down the Laramie River Valley. Another interesting side trip may be taken by leaving the Poudre Canyon road at Eggers and following the Little South Poudre to Pingree Park, where the Colorado State College summer forestry camp is located. The return trip may be made over Penneck Pass, via the Buckhorn or the Stove Prairie roads.

The road to Log Cabin and Redfeather Lakes leaves U. S. 287 at Livermore. It makes accessible the north end of the forest, and eventually will be extended to the Laramie River Valley.

Numerous other minor roads are of value to the forest user and the tourist, such as that from Ward to Brainard Lake. These routes are shown on the map accompanying this folder, and further information regarding them may be obtained from any forest officer.

Several railroads and bus lines pass through the towns adjacent to the forest. The Denver and Salt Lake Railway traverses the southern portion of the forest and thence passes through the Moffat Tunnel—6.4 miles in length—to the western slope of the Continental Divide. Several bus lines operate through the forest, one with planned tours. The main highways are surfaced and there are numerous campgrounds. Hotels and resorts are ready to serve those who prefer not to camp.

PURPOSES OF THE FOREST

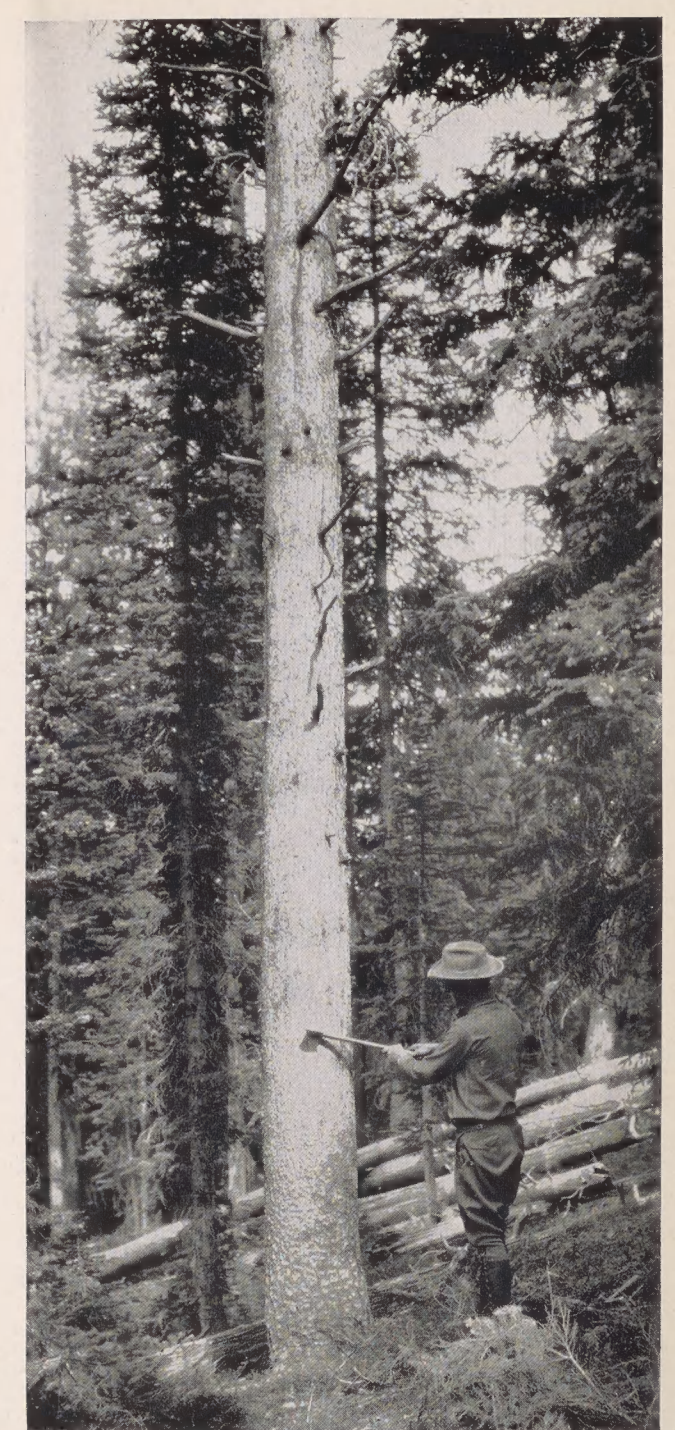
The Roosevelt is one of about 160 national forests in the United States which are located in 40 different States and Territories, including Alaska and Puerto Rico. These forests contain approximately 174,000,000 acres of public lands, and are administered by the Forest Service, United States Department of Agriculture.

Purposes of the national forests are to grow timber to supply the Nation's needs; to preserve an adequate vegetative cover which helps to regulate the flow of streams, retards excessive run-off, and prevents erosion; and so far as is consistent with the best uses of all of the forest resources, to make them available in the ways of greatest service. Conservation, with use, is the keynote in national forest management. The forests are valuable public property, to be developed, protected, and used in perpetuity for the benefit of all citizens.

HOW TIMBER IS MANAGED

The main purposes served by the Roosevelt National Forest are the growing of wood crops and the conservation of water. It is necessary that a pure and constant supply of water be provided for the adjoining towns and that the forest be so managed as to produce a perpetual supply of timber. The administration of the forest is directed toward these ends.

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Forest officer marking lodgepole pine.

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Lumbering is carried on by private companies in the national forests. Prior to making sales, the United States Forest Service estimates the quantity of timber, places a minimum valuation upon it, and advertises it. The timber is then sold to the highest reputable bidder who complies with the terms of the Government contract.

Timber harvesting is so regulated by the Forest Service that the forests are developed and improved by cuttings that remove the mature, overmature, and diseased trees. The young trees are thus given a chance to replace the old veterans of the forest and provide for future crops of wood to make this safe.

Logging operations in the national forests are carried on under the supervision of forest rangers. It is their duty to see that only properly marked trees are cut, that young growth is not damaged needlessly, and that satisfactory disposition is made of the brush resulting from the cutting. On the Roosevelt Forest, limbs of felled trees are ordinarily merely cut and scattered over the ground, where they decay and enrich the soil. On areas of high fire hazard, however, the brush is piled and burned when there is sufficient snow on the ground to make this safe.

Forestry and agriculture are closely related. The one great difference is the element of time. The agriculturist's crop usually matures in 1 year; the forester necessarily plans and manages his crop on much longer harvesting cycles.

The merchantable timber on the Roosevelt Forest is estimated at 1,751,138,000 board feet. Of this amount, 1,119,699,000 board feet, or 64 percent, is lodgepole pine. Engelmann spruce comprises 19 percent, ponderosa pine 10 percent, alpine fir 5 percent, and Douglas fir and limber pine the remainder.

The money from timber sales and from grazing fees and other receipts is paid into the national treasury, but 25 percent is returned to be spent on schools and roads in the counties in which the forests are located. An additional 10 percent of the receipts is used by the Forest Service for building and maintaining roads and trails within the national forests.

VALUE OF THE WATERSHED

Most of the Roosevelt Forest is drained by tributaries of the South Platte River. The northwest portion is drained by the Laramie River, which is a tributary of the North Platte. About one-third of the irrigated land within the State is in the South Platte drainage basin which is one of the richest agricultural areas in the State.

An adequate forest cover is necessary for the protection of the watersheds against erosion and to insure a continuous and regular stream flow. The winter snows, under the protection of dense forests, melt gradually until almost the middle of the summer, thus releasing a steady supply of water to the springs and streams and adding to the storage supply of the numerous reservoirs.

The agricultural land to the east of the forest is very fertile, and diversified farming is practiced with the aid of extensive irrigation systems. The farms are usually from 40 to 160 acres in size, although some are as small as 5 acres. The principal crops are sugar beets, grain, and alfalfa, the latter yielding 3 and 4 tons per acre from three cuttings a year. The sugar beet industry is one of the largest in the country. Sugar factories—ten in all—are located at Eaton, Greeley, Windsor, and Fort Collins, all in the Poudre Valley; Loveland, in the Big Thompson; and Longmont, in the St. Vrain Valley. In these cities the factories are of outstanding economic significance. A demand for labor is created in the fields during the growing season and in the factories in the fall and winter. All this is made possible by irrigation with water coming directly from the forest, supplemented by that stored in reservoirs in the forest and on the plains. The land has increased in value from practically nothing to several hundred dollars per acre. The assessed valuation of the land obtaining water from the Roosevelt National Forest is more than \$65,000,000. Crops raised on this land are valued at \$10,000,000 to \$15,000,000 per year.

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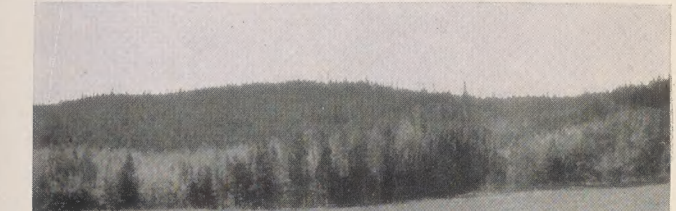
GRAZING IS REGULATED

During each of the last 3 years the Roosevelt National Forest has provided summer pasture for an average of 13,940 cattle and horses, and 15,730 sheep, owned by 169 persons. Grazing is regulated by establishing proper periods of use, by restricting the number of animals grazed to the safe capacity of the range, and by requiring compliance with sound principles of range management. Application of the permit system also protects the settler and home builder against unfair competition in the use of the range.

Regulated grazing insures the permanent welfare of the livestock industry through proper care and improvement of the ranges. During the winter months, the stock is grazed on lowland pastures or fed on alfalfa and native hay, and byproducts of sugar beets grown on land irrigated by water from the forest.

WILDLIFE AND FISH

Nearly all of the streams and lakes afford good fishing, having been stocked with fish by the Forest Service, in cooperation with the State Game and Fish Department and the United States Bureau of



Hereford cattle on national forest range.

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